

EXHAUST DIAPHRAGM ASSEMBLY

ABSTRACT OF THE DISCLOSURE

5 The present invention, in one aspect, includes a diaphragm assembly for being connected between an engine exhaust path and an engine electronic control unit to transmit changes in exhaust gas pressure from the exhaust path to the control unit. In an exemplary embodiment, the diaphragm assembly includes a diaphragm housing and a diaphragm positioned in the housing and separating a first chamber and a second chamber. The first chamber is configured to be in flow communication with the exhaust path and the second chamber is configured to be in flow communication with the engine control unit. The diaphragm housing, in the exemplary embodiment, includes a first housing member and a second housing member. An inner surface of the first housing member also is a side wall of the first chamber, and the inner surface has a conical shape to facilitate drainage of water from the first chamber. Also, the first chamber has a first volume and said second chamber has a second volume. The first volume is greater than the second volume. The diaphragm includes an o-ring and a diaphragm member integral with the o-ring. In the exemplary embodiment, the o-ring and said diaphragm member are fabricated from fluorosilicone. The first and second housing members each include an o-ring groove so that when the housing members are assembled, the diaphragm o-ring is trapped between the first and second housing members in the grooves.